

Message

From: Janjic, Ksenija [Janjic.Ksenija@epa.gov]
Sent: 11/28/2016 2:56:52 PM
To: Ex. 3 [CERCLA section 104(e)(7)(42 USC 9604(e)(7))]
CC: Carusiello, Chris [Carusiello.Chris@epa.gov]; Villamizar, Nicole [Villamizar.Nicole@epa.gov]
Subject: RE: Request for Review of STC Citations

Thank you.

Ksenija Janjic
Office of Resource Conservation and Recovery
US Environmental Protection Agency
Potomac Yards South, S6943
phone: Ex. 3 [CERCLA section 104(e)(7)(42 USC 9604(e)(7))]
fax: 703 308 0522

From: Ex. 3 [CERCLA section 104(e)(7)(42 USC 9604(e)(7))]
Sent: Monday, November 28, 2016 9:56 AM
To: Janjic, Ksenija <Janjic.Ksenija@epa.gov>
Cc: Carusiello, Chris <Carusiello.Chris@epa.gov>; Villamizar, Nicole <Villamizar.Nicole@epa.gov>
Subject: RE: Request for Review of STC Citations

Ksenja – this looks fine.

Ex. 3 [CERCLA section 104(e)(7)(42 USC 9604(e)(7))]

Ex. 3 [CERCLA section 104(e)(7)(42 USC 9604(e)(7))]

From: Janjic, Ksenija [mailto:Janjic.Ksenija@epa.gov]
Sent: Tuesday, November 22, 2016 11:29 AM
To: Ex. 3 [CERCLA section 104(e)(7)(42 USC 9604(e)(7))]
Cc: Carusiello, Chris <Carusiello.Chris@epa.gov>; Villamizar, Nicole <Villamizar.Nicole@epa.gov>
Subject: RE: Request for Review of STC Citations

Hi

I hope you are well, and again, an immense thank you for the support and engagement you have provided us as we work to understand synthetic turf fields. I want to follow up on the discussion below around the market share of different infill materials, and share with you the language that was approved at our Branch level as the most appropriate for the background discussion of the draft status report. Do you feel comfortable that the summarized text is accurate, even if it is not as detailed as what you suggested, and do we have your permission to cite STC for it?

- It is estimated that roughly 95% of the existing fields in North America utilize recycled rubber infill exclusively or in a mixture with sand or alternative infills; the remaining five percent contain only alternative infills (STC et al., 2016). The STC also reports that the use of exclusively alternative infills in new installations increased in 2016 (STC et al, 2016b).

Thank you very much, and foremost, Happy Thanksgiving!

Ksenija Janjic
Office of Resource Conservation and Recovery
US Environmental Protection Agency
Potomac Yards South, S6943
phone: Ex. 3 [CERCLA section 104(e)(7)(42 USC 9604(e)(7))]
fax: 703 308 0522

From: Ex. 3 [CERCLA section 104(e)(7)(42 USC 9604(e)(7))]
Sent: Tuesday, November 15, 2016 8:23 AM
To: Janjic, Ksenija <Janjic.Ksenija@epa.gov>
Subject: FW: Request for Review of STC Citations

Ksenija – if acceptable, this is really the message about the alternatives and the market overall. As written, this is actually something we discussed during our initial meetings with you as well so it may not even need a secondary citation.

Synthetic Turf Fields

It is estimated that roughly 95% of the fields in North America today utilize recycled rubber infill exclusively or in a mixture with sand or alternative infills (STC et al., 2016). However, the Synthetic Turf Council (STC) reports that in 2016, the synthetic field market has increased the use of alternatives which are far less tested in most cases than crumb rubber for use in synthetic turf. (STC et al, 2016b). According to STC and its members, due to concerns recently raised by the public, this may be as much as 20% of the market (STC et al, 2016b).

Ex. 3 [CERCLA section 104(e)(7)(42 USC 9604(e)(7))]

Ex. 3 [CERCLA section 104(e)(7)(42 USC 9604(e)(7))]

From: Janjic, Ksenija [<mailto:Janjic.Ksenija@epa.gov>]
Sent: Tuesday, November 15, 2016 7:24 AM
To: Ex. 3 [CERCLA section 104(e)(7)(42 USC 9604(e)(7))]; Carusiello, Chris <Carusiello.Chris@epa.gov>
Cc: Villamizar, Nicole <Villamizar.Nicole@epa.gov>
Subject: RE: Request for Review of STC Citations

H Ex. 3 [CERCLA section 104(e)(7)(42 USC 9604(e)(7))]

Thank you for your review and response. Would it be accurate to edit the paragraph around the use of infill materials to say:

Synthetic Turf Fields

It is estimated that up until recently, 95% of the fields utilized recycled rubber infill exclusively or in a mixture with sand or alternative infills (STC et al., 2016). However, the Synthetic Turf Council (STC) reports that in 2016, the synthetic field market may have moved away some from the use of tire crumb and towards the use of its alternatives (STC et al, 2016b). According to STC and its members, due to concerns recently raised by the public, only around 80% of the national market today is using tire crumb, while in some regional markets, tire crumb may be utilized in even a smaller portion of synthetic fields (STC et al, 2016b).

STC et al. (2016). Information provided as part of an informational meeting between the U.S. EPA and representatives of the Synthetic Turf Council, Safe Field Alliance, Recycled Rubber Council, and the Institute of Recycling Industries. Arlington, VA. March 26, 2016.

STC et al. (2016b). Information provided as part of email exchange between the U.S. EPA and Amy Brackin. Arlington, VA. November 15, 2016.

Ksenija Janjic
Office of Resource Conservation and Recovery
US Environmental Protection Agency
Potomac Yards South, S6943
phone: Ex. 6 Personal Privacy (PP)
fax: 703 308 0522

From: Ex. 3 [CERCLA section 104(e)(7)(42 USC 9604(e)(7))]
Sent: Monday, November 14, 2016 5:39 PM
To: Carusiello, Chris <Carusiello.Chris@epa.gov>
Cc: Janjic, Ksenija <Janjic.Ksenija@epa.gov>; Villamizar, Nicole <Villamizar.Nicole@epa.gov>
Subject: RE: Request for Review of STC Citations

Chris – Sorry for the delay getting back to you. See below for a few suggested edits.

Ex. 3 [CERCLA section 104(e)(7)(42 USC 9604(e)(7))]

Ex. 3 [CERCLA section 104(e)(7)(42 USC 9604(e)(7))]

From: Carusiello, Chris [mailto:Carusiello.Chris@epa.gov]
Sent: Tuesday, November 08, 2016 3:05 PM
To: Ex. 3 [CERCLA section 104(e)(7)(42 USC 9604(e)(7))]
Cc: Janjic, Ksenija <Janjic.Ksenija@epa.gov>; Villamizar, Nicole <Villamizar.Nicole@epa.gov>
Subject: Request for Review of STC Citations

Hi [REDACTED]

We have greatly appreciated the Synthetic Turf Council's support and engagement as we implement the *Federal Research Action Plan on the Use of Tire Crumb on Playing Fields and Playgrounds*. As you may know, by the end of the year, the agencies will release a draft status report that describes the findings and conclusions of the research through that point in time. The status report also will outline additional research needs and next steps. We're planning to include a preliminary summary of the information we've learned through our outreach and engagement efforts, including the process by which synthetic turf fields are constructed, installed and maintained, in the status report. While we will primarily draw from publically available sources (e.g. reports/studies, web sites, etc.), we would like to include some of the information you provided to us during our meeting in March. As we promised, I am contacting you in advance to provide you with an opportunity to review the personal communication that we would like to cite (highlighted below). Please confirm in an email back to me that the highlighted text is accurate, or provide any edits you wish to make, at your earliest convenience – but if possible, no later than 11/14. Thank you again. We sincerely appreciate your continued support and engagement on this issue.

Synthetic Turf Fields

Synthetic turf field systems were initially introduced in the 1960s. Currently, there are between 12,000 and 13,000 synthetic turf sports fields in the U.S., with approximately 1,200 – 1,500 new installations each year (STC et al., 2016). Synthetic turf fields are installed at municipal and county parks; schools, colleges and universities; professional team stadiums and practice fields; and military installations.

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Tire Crumb Rubber Manufacturing Process

In the United States, tires typically are collected at tire dealerships and auto-service stations and shipped to tire crumb producers. Tires of different types (e.g. passenger vs. truck) and from different manufacturers are mixed together at tire collection stations and tire crumb recycling plants. According to the Synthetic Turf Council, nine tire crumb producers in U.S. produce approximately 95% of the recycled rubber used as infill in synthetic turf field applications (STC et al., 2016).

...

Ambient and Cryogenic Processes

Two tire recycling processes, ambient and cryogenic, are used to create tire crumb in the 10 – 20 mesh (0.84 – 2.0 mm) size, which is generally the size used in synthetic turf infill. The ASTM Standard D5644 can be used to determine the average particle size distribution of recycled vulcanizate particulate (ASTM, 2013). The number of tire recycling facilities utilizing the ambient process is greater than the number of facilities utilizing the cryogenic process (STC et al., 2016).

...

Synthetic Turf Fields

It is estimated that 95% of the fields utilize recycled rubber infill exclusively or in a mixture with sand or alternative infills (STC et al., 2016). (THIS HAS CHANGED IN 2016. MEMBERS HAVE SHARED THAT UP TO 20% OF THE MARKET TODAY IS USING ALTERNATIVES DUE TO THE RECENT MEDIA COVERAGE AND IN SOME AREAS ON THE WEST COAST AND NORTHEAST THAT NUMBER IS EVEN HIGHER. Not sure how you want to modify)

...

To a much lesser extent, natural materials (e.g. ground coconut husk), ethylene propylene diene monomer (EPDM), or thermoplastic elastomers (TPE) granules may be used as the complete infill. These materials may also be used as the uppermost layer of infill (STC et al., 2016). Infill material is typically spread using small utility

vehicles that make multiple passes across entire fields, laying the material down in thin layers that are placed one on top of the other until the appropriate height is reached.

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Synthetic Turf Field Maintenance

Routine synthetic turf field maintenance is conducted to maintain a safe playing surface, improve the appearance as well as to extend the life of a synthetic turf field (STC, 2015). Recommended maintenance practices include brushing the field for infill redistribution, raking to rejuvenate the fibers and relevel the top portion of the infill, and sweeping for debris removal (STC et al., 2016; Fieldturf, n.d.-b). Some field installers and maintenance professionals also recommend aerating the field to help reduce compaction in the infill material (STC, 2015; FieldTurf, n.d.-b). It is recommended that some of these practices be performed more frequently than others, depending on the frequency the field is used and specific guidelines for the sport. (I don't believe we should use "aerate" synthetic turf – although some do decompact with a deep cleaning, aeration is not the term used. That seems to imply holes being punctured in the system which is def not done)

STC et al. (2016). Information provided as part of an informational meeting between the U.S. EPA and representatives of the Synthetic Turf Council, Safe Field Alliance, Recycled Rubber Council, and the Institute of Recycling Industries. Arlington, VA. March 26, 2016.

Thank you,
Chris Carusiello

Chris Carusiello
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Industrial Materials Reuse Branch
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